30th international Symposium on Halogenated Persistent Organic Pollutants (Dioxin 2010)

Proposal for Special Session

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Title: Fate and Transport of Dioxin and PCBs in the Houston Ship Channel in Texas

Scope: Urban estuaries are unique environments that are host to numerous uses and activities including recreation, industry, and seafood harvesting. Additionally, and because of their coastal nature, urban estuaries are hydrodynamically complex, tidally influenced, and receiving flows and sediment from freshwater sources and urban runoff. This proposed session will cover the implications of these unique conditions in urban estuaries on the fate and transport of Persistent Organic Pollutants or POPs with specific emphasis on dioxin and PCBs. Case studies in urban estuaries around the globe will be presented.

Synopsis:

- Comparison of behavior of multiple POPs in same urban estuary
- POPs from air pollution and their relative impact on estuary environment
- Biodegradation of POPs in urban estuaries
- Historical versus current nature of sources
- Nonpoint pollution and its effects on POP contamination in urban estuaries
- Control and mitigation strategies suitable for urban estuaries

Indicative proposed abstracts:

Howell, N. L. (UH), and H. S. Rifai (UH), Comparative distribution, sourcing, and chemical behavior of PCDD/Fs and PCBs in an estuary environment.

Lakshmanan, D. (UH), N. L. Howell (UH), and H. S. Rifai (UH), Bioaccumulation of dioxins and PCBs in fish tissue in an urban Estuary.

Brinkmeyer, R. (TAMUG), A.S.C. Hieke (TAMUG), K.M. Yeager (U. of Southern Mississipi), P. Louchouarn (TAMUG), and P. Santschi (TAMUG). Factors regulating microbial degradation of dioxins in the Houston Ship Channel and Galveston Bay, Texas.

Yeager, K. (U. of Southern Mississipi), Louchouarn, P. (TAMUG), Brinkmeyer, R. (TAMUG), Santschi, P. (TAMUG). Reconstructing historical industrial activity and dioxin contamination in the Houston Ship Channel and Galveston Bay, Texas using sediment radiodating.

Hieke, C. (TAMUG), Brinkmeyer, R. (TAMUG), Yeager, K. (U. of Southern Mississipi), Louchouarn, P. (TAMUG), Rifai, H., (UH), Santschi, P. (TAMUG). Widespread distribution of *Dehalococcoides* spp. bacteria in dioxin contaminated sediments in the Houston ship channel and Galveston Bay, Texas.

Louchouarn, P. (TAMUG), Brinkmeyer, R. (TAMUG), Yeager, K. (U. of Southern Mississipi), Santschi, P. (TAMUG). Using lignin, black carbon, PAH, and dioxin data to reconstruct disposal of papermill sludge in the Houston Ship Channel. A case study of the San Jacinto Waste Pit.

Koenig, L., Dioxin and PCB TMDLs in the the Houston Ship Channel and Galveston Bay System. Presentation from industry – TBA.

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